

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/500,477A
Source: PCT
Date Processed by STIC: 4/20/06

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 04/20/2006

PATENT APPLICATION: US/10/500,477A

TIME: 12:11:49

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\04202006\J500477A.raw

```

3 <110> APPLICANT: Pettersson, Dan
4     Fuglsang, Claus Crone
5     Wu, Wenping
7 <120> TITLE OF INVENTION: Thermostable Enzyme Compositions
9 <130> FILE REFERENCE: 10254.204-US
11 <140> CURRENT APPLICATION NUMBER: 10/500,477A
12 <141> CURRENT FILING DATE: 2004-06-29
14 <160> NUMBER OF SEQ ID NOS: 18
16 <170> SOFTWARE: PatentIn version 3.3
18 <210> SEQ ID NO: 1
19 <211> LENGTH: 1008
20 <212> TYPE: DNA
21 <213> ORGANISM: Thermoascus aurantiacus
24 <220> FEATURE:
25 <221> NAME/KEY: sig_peptide
26 <222> LOCATION: (1)..(90)
28 <220> FEATURE:
29 <221> NAME/KEY: CDS
30 <222> LOCATION: (1)..(1005)
32 <220> FEATURE:
33 <221> NAME/KEY: mat_peptide
34 <222> LOCATION: (91)..(1005)
36 <400> SEQUENCE: 1
37 atg aag ctc ggc tct ctc gtg ctc gct ctc agc gca gct agg ctt aca      48
38 Met Lys Leu Gly Ser Leu Val Leu Ala Leu Ser Ala Ala Arg Leu Thr
39 -30      -25      -20      -15
41 ctg tcg gcc cct ctc gca gac aga aag cag gag acc aag cgt gcg aaa      96
42 Leu Ser Ala Pro Leu Ala Asp Arg Lys Gln Glu Thr Lys Arg Ala Lys
43      -10      -5      -1 1
45 gta ttc caa tgg ttc ggt tcg aac gag tcc ggt gct gaa ttc gga agc      144
46 Val Phe Gln Trp Phe Gly Ser Asn Glu Ser Gly Ala Glu Phe Gly Ser
47      5      10      15
49 cag aac ctt cca gga gtc gag gga aag gat tat ata tgg cct gat ccc      192
50 Gln Asn Leu Pro Gly Val Glu Gly Lys Asp Tyr Ile Trp Pro Asp Pro
51      20      25      30
53 aac acc att gac aca ttg atc agc aag ggg atg aac atc ttt cgt gtc      240
54 Asn Thr Ile Asp Thr Leu Ile Ser Lys Gly Met Asn Ile Phe Arg Val
55 35      40      45      50
57 ccc ttt atg atg gag aga ttg gtt ccc aac tca atg acc ggc tct ccg      288
58 Pro Phe Met Met Glu Arg Leu Val Pro Asn Ser Met Thr Gly Ser Pro
59      55      60      65
61 gat ccg aac tac ctg gca gat ctc ata gcg act gta aat gca atc acc      336
62 Asp Pro Asn Tyr Leu Ala Asp Leu Ile Ala Thr Val Asn Ala Ile Thr

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63          70          75          80
65 cag aaa ggt gcc tac gcc gtc gtc cct cat aac tac ggc aga tac      384
66 Gln Lys Gly Ala Tyr Ala Val Val Asp Pro His Asn Tyr Gly Arg Tyr
67          85          90          95
69 tac aat tct ata atc tcg agc cct tcc gat ttc cag acc ttc tgg aaa      432
70 Tyr Asn Ser Ile Ile Ser Ser Pro Ser Asp Phe Gln Thr Phe Trp Lys
71          100          105          110
73 acg gtc gcc tca cag ttt gct tcg aat cca ctg gtc atc ttc gac act      480
74 Thr Val Ala Ser Gln Phe Ala Ser Asn Pro Leu Val Ile Phe Asp Thr
75 115          120          125          130
77 aat aac gaa tac cac gat atg gac cag acc tta gtc ctc aat ctc aac      528
78 Asn Asn Glu Tyr His Asp Met Asp Gln Thr Leu Val Leu Asn Leu Asn
79          135          140          145
81 cag gcc gct atc gac ggc atc cgt tcc gcc gga gcc act tcc cag tac      576
82 Gln Ala Ala Ile Asp Gly Ile Arg Ser Ala Gly Ala Thr Ser Gln Tyr
83          150          155          160
85 atc ttt gtc gag ggc aat tcg tgg acc ggg gca tgg acc tgg acg aac      624
86 Ile Phe Val Glu Gly Asn Ser Trp Thr Gly Ala Trp Thr Trp Thr Asn
87          165          170          175
89 gtg aac gat aac atg aaa agc ctg acc gac cca tct gac aag atc ata      672
90 Val Asn Asp Asn Met Lys Ser Leu Thr Asp Pro Ser Asp Lys Ile Ile
91          180          185          190
93 tac gag atg cac cag tac ctg gac tct gac gga tcc ggg aca tca gcg      720
94 Tyr Glu Met His Gln Tyr Leu Asp Ser Asp Gly Ser Gly Thr Ser Ala
95 195          200          205          210
97 acc tgc gta tct tcg acc atc ggt caa gag cga atc acc agc gca acg      768
98 Thr Cys Val Ser Ser Thr Ile Gly Gln Glu Arg Ile Thr Ser Ala Thr
99          215          220          225
101 cag tgg ctc agg gcc aac ggg aag aag ggc atc atc ggc gag ttt gcg      816
102 Gln Trp Leu Arg Ala Asn Gly Lys Lys Gly Ile Ile Gly Glu Phe Ala
103          230          235          240
105 ggc gga gcc aac gac gtc tgc gag acg gcc atc acg ggc atg ctg gac      864
106 Gly Gly Ala Asn Asp Val Cys Glu Thr Ala Ile Thr Gly Met Leu Asp
107          245          250          255
109 tac atg gcc cag aac aca gac gtc tgg act ggc gcc atc tgg tgg gcg      912
110 Tyr Met Ala Gln Asn Thr Asp Val Trp Thr Gly Ala Ile Trp Trp Ala
111          260          265          270
113 gcc ggg ccg tgg tgg gga gac tac ata ttc tcc atg gag ccg gac aat      960
114 Ala Gly Pro Trp Trp Gly Asp Tyr Ile Phe Ser Met Glu Pro Asp Asn
115 275          280          285          290
117 ggc atc gcg tat cag cag ata ctt cct att ttg act ccg tat ctt tga      1008
118 Gly Ile Ala Tyr Gln Gln Ile Leu Pro Ile Leu Thr Pro Tyr Leu
119          295          300          305
122 <210> SEQ ID NO: 2
123 <211> LENGTH: 335
124 <212> TYPE: PRT
125 <213> ORGANISM: Thermoascus aurantiacus
127 <400> SEQUENCE: 2
129 Met Lys Leu Gly Ser Leu Val Leu Ala Leu Ser Ala Ala Arg Leu Thr

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```

130 -30                      -25                      -20                      -15
133 Leu Ser Ala Pro Leu Ala Asp Arg Lys Gln Glu Thr Lys Arg Ala Lys
134                      -10                      -5                      -1 1
137 Val Phe Gln Trp Phe Gly Ser Asn Glu Ser Gly Ala Glu Phe Gly Ser
138                      5                      10                      15
141 Gln Asn Leu Pro Gly Val Glu Gly Lys Asp Tyr Ile Trp Pro Asp Pro
142          20                      25                      30
145 Asn Thr Ile Asp Thr Leu Ile Ser Lys Gly Met Asn Ile Phe Arg Val
146 35                      40                      45                      50
149 Pro Phe Met Met Glu Arg Leu Val Pro Asn Ser Met Thr Gly Ser Pro
150                      55                      60                      65
153 Asp Pro Asn Tyr Leu Ala Asp Leu Ile Ala Thr Val Asn Ala Ile Thr
154                      70                      75                      80
157 Gln Lys Gly Ala Tyr Ala Val Val Asp Pro His Asn Tyr Gly Arg Tyr
158          85                      90                      95
161 Tyr Asn Ser Ile Ile Ser Ser Pro Ser Asp Phe Gln Thr Phe Trp Lys
162          100                      105                      110
165 Thr Val Ala Ser Gln Phe Ala Ser Asn Pro Leu Val Ile Phe Asp Thr
166 115                      120                      125                      130
169 Asn Asn Glu Tyr His Asp Met Asp Gln Thr Leu Val Leu Asn Leu Asn
170                      135                      140                      145
173 Gln Ala Ala Ile Asp Gly Ile Arg Ser Ala Gly Ala Thr Ser Gln Tyr
174          150                      155                      160
177 Ile Phe Val Glu Gly Asn Ser Trp Thr Gly Ala Trp Thr Trp Thr Asn
178          165                      170                      175
181 Val Asn Asp Asn Met Lys Ser Leu Thr Asp Pro Ser Asp Lys Ile Ile
182          180                      185                      190
185 Tyr Glu Met His Gln Tyr Leu Asp Ser Asp Gly Ser Gly Thr Ser Ala
186 195                      200                      205                      210
189 Thr Cys Val Ser Ser Thr Ile Gly Gln Glu Arg Ile Thr Ser Ala Thr
190          215                      220                      225
193 Gln Trp Leu Arg Ala Asn Gly Lys Lys Gly Ile Ile Gly Glu Phe Ala
194          230                      235                      240
197 Gly Gly Ala Asn Asp Val Cys Glu Thr Ala Ile Thr Gly Met Leu Asp
198          245                      250                      255
201 Tyr Met Ala Gln Asn Thr Asp Val Trp Thr Gly Ala Ile Trp Trp Ala
202          260                      265                      270
205 Ala Gly Pro Trp Trp Gly Asp Tyr Ile Phe Ser Met Glu Pro Asp Asn
206 275                      280                      285                      290
209 Gly Ile Ala Tyr Gln Gln Ile Leu Pro Ile Leu Thr Pro Tyr Leu
210          295                      300                      305
213 <210> SEQ ID NO: 3
214 <211> LENGTH: 21
215 <212> TYPE: PRT
216 <213> ORGANISM: Thermoascus aurantiacus
219 <220> FEATURE:
220 <221> NAME/KEY: MISC_FEATURE
221 <223> OTHER INFORMATION: N-terminal peptide
223 <220> FEATURE:

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```

224 <221> NAME/KEY: MISC_FEATURE
225 <222> LOCATION: (2)..(2)
226 <223> OTHER INFORMATION: Xaa in position 2 means any amino acid
228 <400> SEQUENCE: 3
W--> 230 Asn Xaa Leu Val Phe Thr Ser Phe Gly Ser Asn Glu Ser Gly Ala Glu
      231 1             5             10             15
      234 Phe Gly Ser Gln Asn
      235             20
238 <210> SEQ ID NO: 4
239 <211> LENGTH: 20
240 <212> TYPE: DNA
241 <213> ORGANISM: Artificial
243 <220> FEATURE:
244 <223> OTHER INFORMATION: Primer
247 <220> FEATURE:
248 <221> NAME/KEY: misc_feature
249 <222> LOCATION: (9)..(9)
250 <223> OTHER INFORMATION: n is a, c, g, or t
252 <220> FEATURE:
253 <221> NAME/KEY: misc_feature
254 <222> LOCATION: (12)..(12)
255 <223> OTHER INFORMATION: n is a, c, g, or t
257 <220> FEATURE:
258 <221> NAME/KEY: misc_feature
259 <222> LOCATION: (15)..(15)
260 <223> OTHER INFORMATION: n is a, c, g, or t
262 <400> SEQUENCE: 4
W--> 263 aaygartcng gngcngaatt                                20
      266 <210> SEQ ID NO: 5
      267 <211> LENGTH: 20
      268 <212> TYPE: DNA
      269 <213> ORGANISM: Artificial
      271 <220> FEATURE:
      272 <223> OTHER INFORMATION: Primer
      275 <220> FEATURE:
      276 <221> NAME/KEY: misc_feature
      277 <222> LOCATION: (9)..(9)
      278 <223> OTHER INFORMATION: n is a, c, g, or t
      280 <220> FEATURE:
      281 <221> NAME/KEY: misc_feature
      282 <222> LOCATION: (12)..(12)
      283 <223> OTHER INFORMATION: n is a, c, g, or t
      285 <220> FEATURE:
      286 <221> NAME/KEY: misc_feature
      287 <222> LOCATION: (15)..(15)
      288 <223> OTHER INFORMATION: n is a, c, g, or t
      290 <400> SEQUENCE: 5
W--> 291 aaygartcng gngcngagtt                                20
      294 <210> SEQ ID NO: 6

```

RAW SEQUENCE LISTING

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Input Set : A:\PTO.AMC.txt

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295 <211> LENGTH: 20
296 <212> TYPE: DNA
297 <213> ORGANISM: Artificial
299 <220> FEATURE:
300 <223> OTHER INFORMATION: Primer
303 <220> FEATURE:
304 <221> NAME/KEY: misc_feature
305 <222> LOCATION: (12)..(12)
306 <223> OTHER INFORMATION: n is a, c, g, or t
308 <220> FEATURE:
309 <221> NAME/KEY: misc_feature
310 <222> LOCATION: (15)..(15)
311 <223> OTHER INFORMATION: n is a, c, g, or t
313 <400> SEQUENCE: 6
W--> 314 aaygaragkg gngcngaatt 20
317 <210> SEQ ID NO: 7
318 <211> LENGTH: 20
319 <212> TYPE: DNA
320 <213> ORGANISM: Artificial
322 <220> FEATURE:
323 <223> OTHER INFORMATION: Primer
326 <220> FEATURE:
327 <221> NAME/KEY: misc_feature
328 <222> LOCATION: (12)..(12)
329 <223> OTHER INFORMATION: n is a, c, g, or t
331 <220> FEATURE:
332 <221> NAME/KEY: misc_feature
333 <222> LOCATION: (15)..(15)
334 <223> OTHER INFORMATION: n is a, c, g, or t
336 <400> SEQUENCE: 7
W--> 337 aaygaragkg gngcngagtt 20
340 <210> SEQ ID NO: 8
341 <211> LENGTH: 18
342 <212> TYPE: DNA
343 <213> ORGANISM: Artificial
345 <220> FEATURE:
346 <223> OTHER INFORMATION: Primer
348 <400> SEQUENCE: 8
349 aagatgtact gggaagtg 18
352 <210> SEQ ID NO: 9
353 <211> LENGTH: 21
354 <212> TYPE: DNA
355 <213> ORGANISM: Artificial
357 <220> FEATURE:
358 <223> OTHER INFORMATION: Primer
360 <400> SEQUENCE: 9
361 tggttgagat tgaggactaa g 21
364 <210> SEQ ID NO: 10
365 <211> LENGTH: 21

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/500,477A

DATE: 04/20/2006
TIME: 12:11:50

Input Set : A:\PTO.AMC.txt
Output Set: N:\CRF4\04202006\J500477A.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; Xaa Pos. 2
Seq#:4; N Pos. 9, 12, 15
Seq#:5; N Pos. 9, 12, 15
Seq#:6; N Pos. 12, 15
Seq#:7; N Pos. 12, 15

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:4,5,6,7,8,9,10,11,12,13

VERIFICATION SUMMARY

DATE: 04/20/2006

PATENT APPLICATION: US/10/500,477A

TIME: 12:11:50

Input Set : A:\PTO.AMC.txt

Output Set: N:\CRF4\04202006\J500477A.raw

L:230 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:0
L:263 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:0
L:291 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5 after pos.:0
L:314 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6 after pos.:0
L:337 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:7 after pos.:0